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In this Issue:

Fargo-Moorhead River Project Kicks Off	1
Cherry Creek Stewardship Partners Conference	2
Colorado Plateau Ecosystem Stewardship	2
Consolidated Funding Process	3
Lake Poinsett Watershed Restoration Project	4
Missouri River Currents: Monitoring and Assessment Activities along the Fort Peck	4
The Story of Basalt's Storm Water	5
Speaking of Ground Water... Did You Know?	6
Ground Water in the Plains, Canyonlands and Mountains	6
Protecting Threatened and Endangered Species in Nonpoint Source Projects	7

Volunteer monitoring field training on the Red River of the North for the Fargo-Moorhead River Project.

~Photo by Lindsay Beard, EERC

Fargo-Moorhead River Project Kicks Off

~Tom Moe, Energy and Environmental Research Center and Stacey Eriksen, EPA Region 8

A new EPA agency-led Environmental Monitoring for Public Access and Community Tracking (EMPACT) project recently kicked off in the Fargo, ND – Moorhead, MN metropolitan area. The FM River project will concentrate on water quality monitoring and community education of the Red River of the North, the most prominent natural feature in the region. A key feature of FM River will be the development of a community/student volunteer monitoring force that can carry on the newly established water quality monitoring work long after the planned 2-year project period of performance. In this way, FM River will not only create a heightened community awareness of this valuable resource, but will also help to establish a water quality database of basic chemical and biological indicators.

The parameters that are being regularly monitored were selected with an eye on sustainability and usefulness for assessing future water quality changes. A July 24, 2001, meeting brought the main project partners together to discuss project details and sampling specifics, including representatives from EPA Region 8, the Energy & Environmental Research Center (EERC), River Keepers, Prairie Public Television, City of Fargo, City of Moorhead, Moorhead Public Service Department, Minnesota Pollution Control Agency, North Dakota Department of Health, and River Watch.

Red River water quality monitoring for the FM River project was initiated August 2, 2001, while volunteer monitoring training through classroom and field instruction was conducted August 14 and 15, 2001. Prairie Public Television will be broadcasting a 30 minute television program to be aired in October, which will introduce the project to the public. They are also creating a website to house all of the monitoring data and will air 18 "water spots" to educate the public on water issues. Prairie Public Television airs in North Dakota, Minnesota, and Manitoba.

For more information, please contact **Tom Moe** at EERC at (701) 777-5231 or **tmoe@undeerc.org** or **Stacey Eriksen** at EPA at (303) 312-6692 (1-800-227-8917) or **eriksen.stacey@epa.gov** or the EPA headquarters EMPACT webpage at **http://www.epa.gov/empact**

Cherry Creek Stewardship Partners Annual Conference
~Paul McIver, EPA Region 8

Cherry Creek Watershed 2001: A Year of Change, Opportunities for the Future
Friday, November 2, 2001 8:30 to 4:30
South Suburban's Lone Tree Golf Club and Hotel Facility, Littleton, CO

The focus for the Cherry Creek conference this year will be on the changes resulting from the September 2000 Water Quality Control Commission hearings and subsequent workshops on controls for the reservoir that affect all watershed residents. Building on last year's conference that emphasized gathering input from you on your vision for the Cherry Creek corridor, we hope to highlight a year of positive change and exciting developments that demonstrate the opportunities for continuing stewardship of the Cherry Creek Watershed.

For more information, please check our web site at: www.cherry-creek.org or e-mail us at **partners@cherry-creek.org** Contact Chris Rowe, Coordinator for the Partners at (303) 291-7347 for more information. .

Colorado Plateau Ecosystem Stewardship
~Karen Hamilton and Doug Johnson, EPA Region 8

Labyrinthine canyons, intriguing red rock formations, breathtaking panoramic vistas, and diverse cultural heritage and spiritual significance are signature characteristics of this place that is unique in the world. If you have ever explored even small parts of it, you have probably been captivated by its entrancing desert light and spellbound by its landscape dominated by soaring formation canyons equal to any artistic imagination. Through the Plateau, and responsible for much of the carved landscape, flows the Colorado River and its tributaries. The Colorado River is one of the most dammed and diverted rivers in the world. The River provides a water supply to over 30 million residences from Colorado to California. The Plateau is among the richest of 114 North American ecoregions recognized by the World Wildlife Fund in terms of flowering plants, butterflies and mammals. At least 12 Tribes maintain their indigenous languages.

This special place, once so isolated and unknown, has become so attractive that it is suffering from a variety of environmental impacts:

- sprawl-type growth;
- deteriorating air quality, affecting visibility;
- being "loved to death" by large numbers of tourists;
- loss of wildlife habitat;
- infiltration of exotic species like Tamarisk and Russian olive;
- water quality degradation due to many sources;
- surface and ground water quantity reduction, mostly from municipal use increase;
- riparian destruction;
- ecosystem fragmentation from roads and associated development; and
- land damage from a variety of uses.

Colorado Plateau Vital Statistics include:

- 130,000 square miles
- Parts of Arizona, Utah, New Mexico, Colorado, and Wyoming
- 1.25 million human residences

Monument Valley (Utah/Arizona).

~Photo by Doug Johnson

- Five of the fastest growing metro areas ring the Plateau: Denver, Phoenix, Salt Lake City, Las Vegas, Albuquerque
- Largest cluster of National Parks within a single geomorphic region: 36 parks and monuments
- About Tribes on and around the Plateau claim a spiritual connection to the Colorado River
- 40 counties, 225 local governments.
- Land ownership: 50% public, 24% Native American, 15% private, 6% state
- 40 million visitors annually from around the world.

Many decisions about resource use on the Colorado Plateau are made on a daily basis by local, state, federal and tribal governments and private land and home owners. These decisions are often made without good, if any, environmental information, including the quantity and spatial distribution of the natural and cultural resources of the Plateau. An *Atlas* of those resources would help people see a comprehensive picture of the Plateau and how their individual or governmental decisions and actions may affect its natural resources.

An Atlas of Colorado Plateau Natural Resources that is based on electronic data bases of many kinds of characteristics would allow people to create as many kinds of pictures as they need to understand how their activity fits into the Plateau landscape. Unlike a typical paper-bound atlas, an electronic atlas combines many data base layers of different natural resources and man made features. An electronic atlas can be manipulated by interested people to create nearly limitless varieties of landscape pictures. More importantly, the atlas can be linked with certain decision support systems (computer models) to develop "what if" scenarios.

A groups of representatives from federal, state, tribal, local, private and academic agencies and organizations is trying to create a *Resource Atlas* for the Colorado Plateau. Pulling together the data that different organizations and agencies have in a computer format known as geographic information systems (GIS) is one of the first steps. Merely compiling the political, land ownership, and administrative boundaries in their electronic formats from various sources was a hard-won victory. So far, 814 data layers from five states have been compiled and put into the same electronic format.

I-70 cut through east side of San Rafael Swell, Utah.

~Photo by Doug Johnson

The next step is "integrating" the data. In that process the boundaries of various layers are manipulated so that they show up on the same place on a map; that is the boundaries are "seamless." This can be extremely difficult and time-consuming. Once the data are compiled and integrated, the condition of the Plateau's natural and cultural resources can be described through a process known as data interpretation and assessment. Data integration will help people better understand the Plateau and their place within its varied natural resources. Resource assessment will provide the tool to establish trends of resource condition and how expected uses of natural resources will affect them.

For more information, please contact **Doug Johnson** at (303) 312-6834 (1-800-227-8917) or **johnson.douglas@epa.gov**

Consolidated Funding Process
~Pam Dougherty, EPA Region 8

The Fiscal Year (FY) 2001 One Stop Shopping Process, now known as the Consolidated Funding Process, formally concluded the week of August 13, 2001, with an EPA internal forum to discuss success and improvement in the process. Region 8 Ecosystem Protection Program developed this new funding process in FY2001 in response to comments from applicants. Applicants often weren't sure which funding program best fit their proposal. They complained that it was frustrating and time consuming to write multiple proposals to compete for different funding opportunities. The overall response to the One Stop Shopping process was favorable. As a result, FY2002 will be the second year that Region 8's Ecosystems Protection and Water Program will be issuing one Request for Proposal (RFP) for four different Clean Water Act section 104(b)3 programs. The programs include Regional Geographic Initiative, Wetlands, National Pollutant Discharge Elimination System and Total Maximum Daily Loads.

The FY2002 process will begin on October 1, 2001, (request for proposals mailed out) with a proposal

deadline of December 3, 2001, and the process will be completed by March 1, 2002 (draft final decisions pending funding availability). Please make a note of the above dates as they have changed from last year. As a reminder, the RFP and current information will be available on October 1, 2001, on our website at: **http://www.epa.gov/region08/community_resources/** ecoprotection/ecogrant.html and beginning in FY2002 One Stop Shopping will now be known as the Consolidated Funding Process. Should you have any questions, please contact **Pam Dougherty** at (303) 312-6012 (1-800-227-8917) or **dougherty.pam@epa.gov**

Lake Poinsett Watershed Restoration Project
~Richard Smith, Lake Poinsett Watershed Coordinator and Doug Lofstedt, EPA Region 8

Lake Poinsett is in the Big Sioux River watershed in eastern South Dakota. It is one of the largest natural lakes in South Dakota at 7000 acres. The South Dakota Department of Environment & Natural Resources completed a detailed study in 1996 that identified higher than normal nutrient and sediment levels coming from several parts of the watershed. The fishing, wildlife, recreation and drinking water values in Lake Poinsett and the rest of the watershed are important to local residents and thousands of state park and educational camp users. Under the leadership of Richard Smith, the Lake Poinsett Watershed Restoration Project was developed to protect these important values.

The project sponsors set a very ambitious goal of fully restoring all the designated uses of Lake Poinsett. With such a large watershed area (287,628 acres), they knew they had a difficult and expensive challenge on their hands. Local landowners are contributing large amounts of their own labor, materials and money for water quality practices. Project supporters have acquired funding from the South Dakota Conservation Commission and Consolidated Water Facilities Construction Fund, EPA Clean Water Act Section 319 and USDA Environmental Quality Incentives Program. In addition local entities such as Lake Poinsett Water District, East Dakota Water Development District and local county conservation districts are also contributing resources to this effort. The total cost to complete the project is estimated to be over $1.9 million not including easements or land purchases by USFWS, USDA or South Dakota Department of Game, Fish & Parks. The USDA Natural Resources Conservation Service provides much of the technical assistance needed.

Richard Smith, the Lake Poinsett Watershed Project Coordinator, states, "Don't expect landowners to buy into conservation practices just because public opinion favors it. Many landowners need to be shown their own economic advantage to participate in conservation." After two years , the project is on schedule with construction of grassed waterways, small dams, alternative water facilities, cross-fencing, new grass seedings, animal waste systems and over 6000 feet of hard practice shoreline stabilization. Anticipated end of the project is 2006. For more information please contact **Richard Smith** at Box 165, Hayti, SD 57241 or **richard-smith@sd.nacdnet.org**

"When we save a river, we save a major part of an ecosystem, and we save ourselves as well because of our dependence—physical, economic, spiritual,—on the water and its community of life.

~Tim Palmer
The Wild and Scenic Rivers of America

Missouri River Currents: Monitoring and Assessment Activities Along the Fort Peck Reach
~Jean Lillich, EPA Region 8

Back in the Spring 2001 issue of Natural News, we featured a story on the status of water quality along the 2500 miles of the Missouri River. Currently, around two thirds of the river is listed by states or tribes as impaired and will ultimately require the development of Total Maximum Daily Loads (TMDLs) to address the listed impairments. Development of TMDLs has not yet been initiated for most of these listed segments. However, due to the need for comprehensive data and information on the reach, preliminary efforts have already begun. The first TMDL issuance is for the reach of the Missouri River from the Fort Peck Dam to the North Dakota border by 2005.

State and federal agencies, the Fort Peck Tribes, the Lower Missouri River Coordinated Resource Management (CRM) Council, and the conservation districts downstream of Fort Peck Dam have actively begun work to develop a watershed planning effort for the reach. The CRM in conjunction with the Tribe are developing an action plan for a watershed roadmap of the Fort Peck Reach. The action plan will address how they intend to get funds for developing a roadmap, and how they may assist with monitoring and assessment in order to play a stronger role in the TMDL process. EPA is developing a multi-agency strategy for monitoring and assessment that would provide the data and information necessary to develop the TMDL. This strategy includes coordination and contributions by the US Geological Survey, US Fish and Wildlife Service, the Tribes, EPA, the Montana Department of Natural Resources Conservation and the Montana Department of

Basalt 8th graders use the Stream Trailer to explore riverbank erosion.

~Photo by Carlyle Kyzer

Environmental Quality, as well as the Army Corps of Engineers.

For more information, please contact **Jean Lillich** at (303) 312-6258 (1-800-227-8917) or **lillich.jean@epa.gov**

The Story of Basalt's Storm Water
~Kristine Crandall, Roaring Fork Conservancy

An undercurrent is at work in Basalt, located midway between Aspen and Glenwood Springs, in west-central Colorado's Roaring Fork Valley. The plot revolves around storm water runoff, a secretive phenomenon whose impacts on water quality tend to follow the saying, "out of sight, out of mind." The main characters are the Roaring Fork Conservancy and the Town of Basalt. At the urging of Bill Mckee, Upper Colorado Watershed Coordinator for the Colorado Department of Public Health and Environment's (CDPHE) Water Quality Control Division, they successfully applied for a Section 319 Nonpoint Source Pollution grant from the EPA and CDPHE. The Roaring Fork Watershed Improvement Project thus was born, with the goals of assessing Basalt's storm water runoff and related management practices, and expanding water quality and river ecology education opportunities.

The Conservancy, located in Basalt, is a watershed group focused on protecting and preserving the rivers and tributaries of the Roaring Fork Valley. In pursuing its mission, the Conservancy relies strongly on education and also has an established water quality-monitoring program. The Town of Basalt, situated on the Fryingpan and Roaring Fork Rivers, has been concerned about maintaining the water quality, riparian and wetland habitat, and aesthetic values of these rivers. The Roaring Fork and Fryingpan attract visitors from far and wide, particularly for the outstanding fly fishing, and they define the area's natural environment and quality of life. The combination of a case study of a Colorado mountain community's storm water runoff with student education programs and other forms of outreach has provided a unique opportunity to learn and share valuable information. The project's timing is appropriate given that the EPA recently drafted rules for its Phase II storm water program, which are being applied to a greater number of municipalities.

The project began in 1999 with the challenging endeavor of evaluating Basalt's storm water runoff. Robert Krehbiel of Matrix Design Group provided his drainage engineering expertise. He conducted a full assessment of drainage basins, runoff quantities during different storm events, geologic influences on drainage, storm water runoff entry points into the Fryingpan and Roaring Fork Rivers, the area's land use patterns, and the Town's existing storm water management infrastructure and policies. The result is the "Storm Water Evaluation and Recommendations Report" for the Town of Basalt, which contains a wealth of information.

Recommendations from the report are being tailored by Krehbiel and Town staff into a final action plan of proposed storm water management improvements. This plan will be presented to the Town's Board of Trustees this fall. With the grant coming to an end in September, the goal is to provide the Town with some examples of possible demonstration projects. The projects will use Best Management Practices to improve runoff entering the river. Next steps beyond the grant will be facilitating implementation of such projects, sharing Basalt's case study with other communities, and refining education programs specific to storm water runoff issues. The report, although technical in nature, is also broadly written and thus provides a practical tool for information outreach. The Conservancy is excited to make the case study and lessons learned available to other communities in the Valley, such as Aspen and Glenwood Springs, as well as other mountain communities that are grappling with the issue of increased development and related impacts of nonpoint source pollution runoff.

On the education front, during the 1999-2000 and 2000-2001 school years and summers, the Conservancy provided education programs within the following curricula areas: River Watch water quality monitoring, aquatic invertebrate studies, riparian corridor studies, and stream dynamics. In the 1999-2000 school year and summer alone, the Conservancy achieved 1,845 student

visits within the Roaring Fork Valley related to these topics. Storm water outreach has formed a key part of the education efforts, including Girl Scout EPA Water Droplet Patch certification and use of the Natural Resource Conservation Service's Stream Tra iler.

The Stream Trailer, an 8-foot by 12-foot sand box equipped with water, hose, and circulating pump, has provided an effective tool for teaching stream dynamics. Using the trailer, students create a complete river environment, including forests and riparian vegetation, which are complemented by a range of human activities. Students then experiment with varying degrees of stream flow to observe the interrelationships among all the components of their watershed. The Stream Trailer dramatically illustrates the processes of stream morphology, erosion and sediment transport/deposition, contribution of development to runoff, and importance of riparian vegetation in filtering runoff and stabilizing riverbanks.

For further information on the Roaring Fork Watershed Improvement Project, and/or for details on obtaining the Town of Basalt's "Storm Water Evaluation and Recommendations Report," please contact **Kristine Crandall** at the Roaring Fork Conservancy (970) 927-1290 or **rfconsv@rof.net**

Speaking of Ground Water, Did You Know. . .?
~Contributed by Darcy Campbell, EPA Region 8

- Nearly 1.5 billion people world-wide rely on ground water as their sole source of drinking water (Groundwater: A Threatened Resource, U. N. Environmental Program, Nairobi, Kenya, 1996)

- Dealing with contamination of a ground water supply may be, on average, 30 to 40 times more costly than to prevent it in the first place (based on an analysis of 7 cities in the U.S.)

- In the U.S., about 30% of all irrigation water is ground water pumped from the High Plains aquifer, now drawn down so far it will take thousands of years to recharge naturally (National Geographic, April 2001).

Ground Water in the Plains, Canyonlands and Mountains
~Darcy Campbell and Marcella Hutchinson, EPA Region 8

The Source Water/Ground Water Unit in EPA Region 8 is currently writing a summary of the status of ground water in the states of Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. We expect the report to be completed in late 2001.

Rainbow Lake, Colorado

~Photo by Peter Ismert

The report includes:

- an introduction with basics about hydrogeology, contamination and classification;
- discussion of the major aquifers and aquifer systems in the Region;
- ground water use data by State and by type;
- ground water quality (natural and contaminants);
- success stories (examples of ground water protection and management at the federal, state, tribal and local levels); and
- recommendations and conclusions.

The report shows that public water systems within Region 8 are highly dependent on ground water. From 75% to 90% of each State's public water systems rely on ground water. About 73% of the ground water within Region 8 is used for irrigation. This is dominated by Colorado, with almost 2,000 million gallons per day used for irrigation. Other uses include public water supply (approximately 15 %), industrial/commercial, mining, livestock, domestic, and thermoelectric.

If you are interested in getting a copy of the report when it is completed, please contact **Darcy Campbell** at **campbell.darcy@epa.gov** or (303) 312-6709 (1-800-227-8917).

Protecting Threatened and Endangered Species In Nonpoint Source Projects
~Kim Larson, EPA Region 8

Endangered Species Act
The Bald Eagle has become an icon of the success of protecting and ultimately reestablishing threatened and endangered species. We are all exposed, in one way or another, to the underlying message of the Endangered Species Act (ESA), that is: to protect and preserve listed species. Some of us are, however, more affected by ESA than others. Many environmental programs and projects are becoming intimately involved with complying with ESA. These include several EPA programs, such as Total Maximum Daily Loads, and Water Quality Standards in addition to the Nonpoint Source Pollution Program.

Nonpoint Source Program
It is EPA's obligation to ensure that NPS project activities are not likely to jeopardize the continued existence of any listed or proposed species. EPA is required to consult with FWS where an activity "may affect" listed species. How is this done? First, is the activity subject to ESA compliance? To address this, a request is made for a species list from FWS for any on-the-ground project. Secondly, will project activities affect any listed species or critical habitat ("effect determination")? Project and species information is gathered to make this determination. The information and effect determination are compiled in a document called a Biological Evaluation (BE). This BE is then sent to FWS for concurrence on EPA's determination.

ESA and NPS: The Environmental Benefits
Many have questioned the benefits of addressing ESA with regard to NPS projects. On the most basic level, when one thinks of an environmental project, shouldn't the protection of species automatically be a goal, whether it is written on paper or not? Accordingly, one benefit might be a greater understanding of a species' habitat. Other benefits may include improved environmental results, project flexibility and partnerships.

If eagle nesting sites are found on a project site, for example, the initial reaction of the project sponsor may be to groan and expect the project to be terminated in order to comply with ESA. This does not have to be the case. Actually, this has not been the case so far in Colorado. Of the ten Colorado NPS projects in 2001 that have needed BE's, only a few projects needed additional modifications due to the presence of a listed species. Actions necessary for a project sponsor to address ESA may be the application of simple conservation measures to avoid adversely affecting a listed species. One way to address the presence of eagles is to write into the project plan that the sponsor agrees not to do any earth moving activities within a certain distance of nesting sites during nesting season. This allows the eagles to continue to nest undisturbed, and the project to proceed due to its flexibility. In addition, all who are involved have learned a bit about the habitat and nesting behaviors of the eagle. Finally, a positive relationship may be initiated between the project sponsors and other agencies or individuals involved with the project due to the good faith effort put forth to protect threatened and endangered species. The bottom line is that the presence of a listed species within a project site does not automatically mean the project will not happen. In reality, the knowledge and the partnerships gained from addressing ESA may aid in the design of outstanding future NPS projects!

For more information, please contact **Kim Larson** at (303) 312-6212 (1-800-227-8917) or **larson.kim@epa.gov**

The Mittens, Navajo Tribal Park..

~Photo by Doug Johnson

"Rivers run through our history and folklore, and link us as a people. They nourish and refresh us and provide a home for dazzling varieties of fish and wildlife and trees of every sort. We are a nation rich in rivers."

~Charles Kuralt

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Natural News

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